

FIG.1

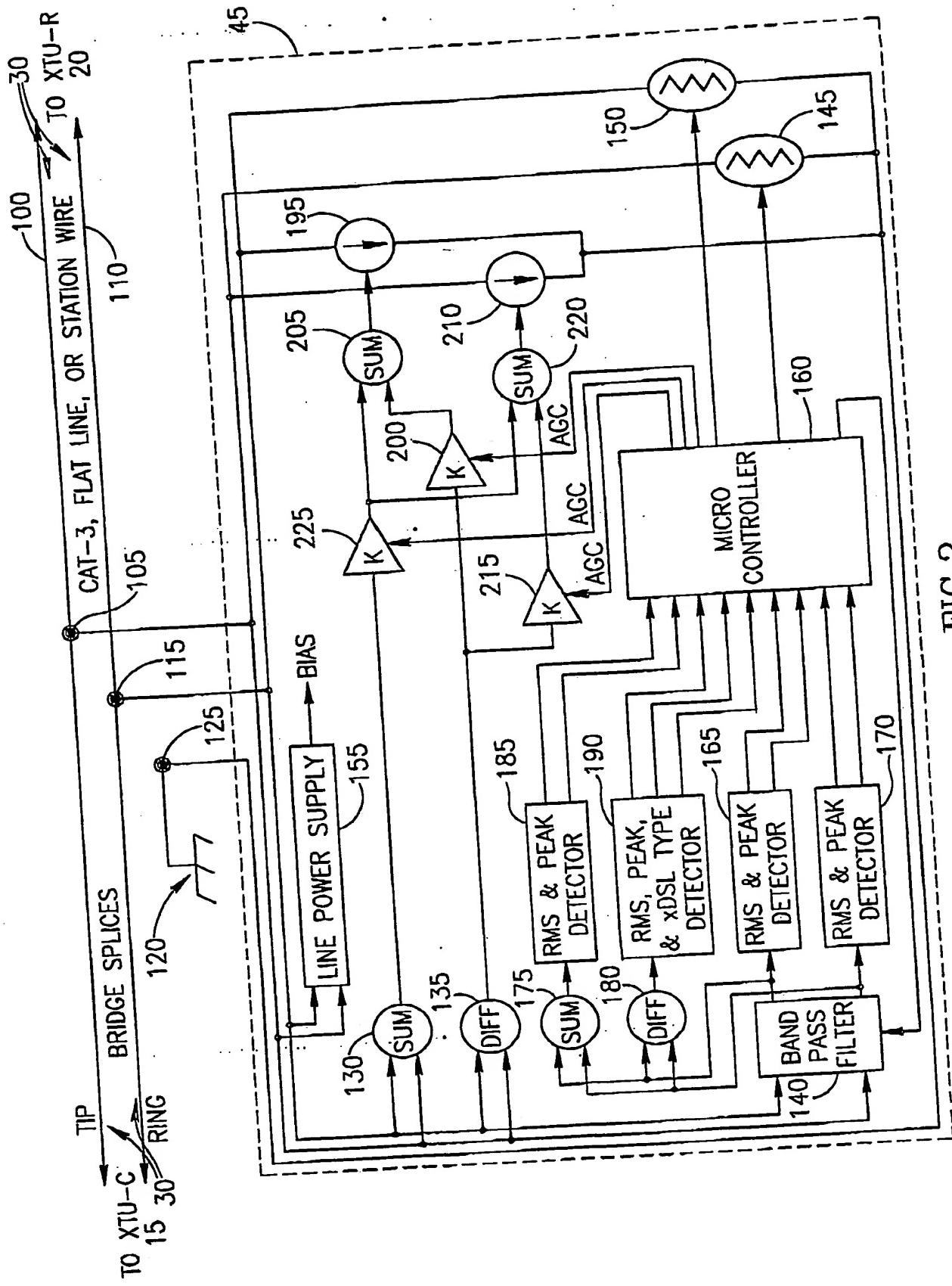


FIG. 2

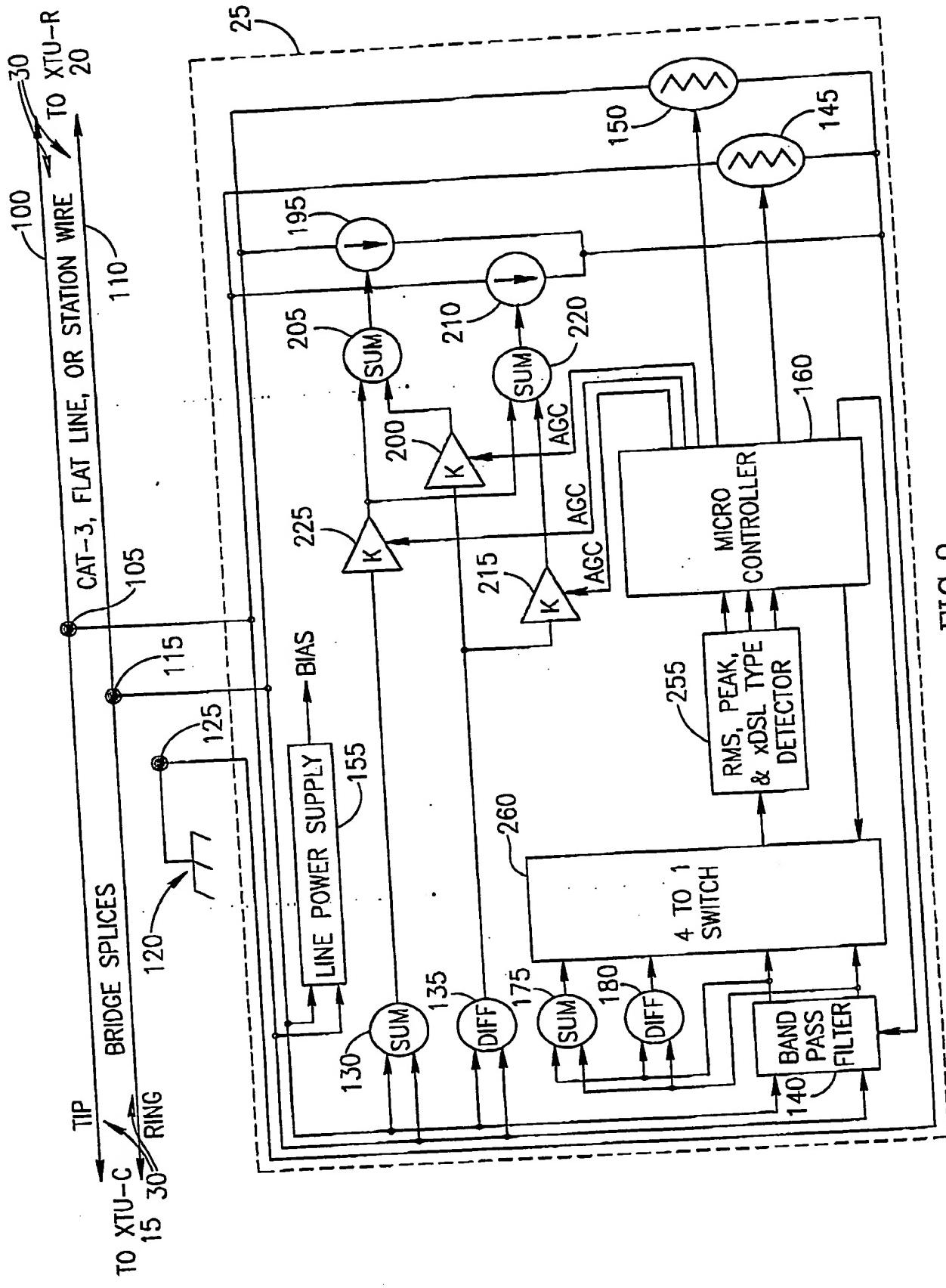


FIG.3

SENSE RESISTANCE OF EACH WIRE OF A COPPER PAIR
THAT CARRIES COMMUNICATION SIGNALS

300

INDEPENDENTLY CONTROL THE RESISTANCE OF EACH WIRE
OF THE COPPER PAIR FOR MATCHING, AT LEAST UP TO
AN ACCEPTABLE RESISTANCE DIFFERENCE VALUE, RESISTANCE
OF SIGNALS CARRIED OVER A CORRESPONDING WIRE OF THE
THE COPPER PAIR TO A LOCAL GROUND

310

FIG.4

COMPUTE AT LEAST ONE OF THE FOLLOWING FOR A COPPER
PAIR THAT CARRIES COMMUNICATION SIGNALS: COMMON-MODE
NOISE; AND DIFFERENTIAL SIGNAL IMBALANCE

350

PROVIDE AT LEAST ONE CANCELLATION SIGNAL FOR RESPECTIVELY
REDUCING AT LEAST ONE OF THE FOLLOWING: THE COMMON-MODE
NOISE; AND THE DIFFERENTIAL SIGNAL IMBALANCE

360

FIG.5

DETECT AT LEAST ONE OF THE FOLLOWING ON EACH WIRE OF A
COPPER PAIR THAT CARRIES COMMUNICATION SIGNALS: A RMS
VOLTAGE; AND A PEAK VOLTAGE

400

EMPLOY AT LEAST ONE OF THE RMS VOLTAGE AND THE PEAK VOLTAGE
TO COMPUTE AT LEAST ONE OF THE FOLLOWING: A LINE IMBALANCE;
AND COMMON-MODE NOISE VERSUS DIFFERENTIAL SIGNAL IMBALANCE

410

FIG.6